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ABSTRACT

In an investigation of the effect of instruction in five components of the writing process on the syntactic complexity and the writing quality of high school students, 48 students received instruction in the following areas: discovering a subject, creating a design, developing a sense of audience, learning to use specifics, and learning to rewrite. Instruction covered a one-semester period. One week was devoted to pretesting, which drew three completed samples of writing on an assigned topic from each student--one sample a rewrite. Another week of posttesting produced three more completed writing samples on an assigned topic from each student--one of which was a rewrite. In addition, a standardized writing test was administered. Two weeks were devoted to instruction in each of the components, and writing samples were obtained from each student at the end of each instruction unit. All of the samples were analyzed for syntactic complexity by calculating the total number of words for each, while teacher/raters evaluated the samples for writing quality. The results showed that instruction in all five components of the writing process succeeded in developing the writing skills of the students in the study as judged by quality analysis and by syntactic complexity scores. (FL)

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AN INVESTIGATION OF THE EFFECT OF INSTRUCTION IN FIVE COMPONENTS OF THE WRITING PROCESS ON THE QUALITY AND SYNTACTIC COMPLEXITY OF STUDENT WRITING

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Writing research has tended to emphasize the cycle of desperation that exists among those involved in the teaching of written composition. Even the media have pointed out the supposed failure of the student population in the United States to master skills in written composition. The gains ascribed to numerous pre-post studies have sent teachers of English scrambling to packaged writing laboratories, individualized kits, and sequenced anthologies in order to find help in developing writing skills in their students. However, no research study has looked into the segments of a writing program itself in order to identify what happens to a peice of writing at points within a writing program between the pre- and post-test samples.

The study presented here is not just an outgrowth of the writing research of the past but rather a reaction to it. Not seeking to present another "successful" program of composition skills, it purports to specify instead those points of growth and regression within a writing program. It searches into some specifics of the writing process. That is, as the case study, for example, concentrates on individual process and writing behavior, the present study centers its focus on five different points in a writing program with each segment isolated and controlled as much as possible, takes writing samples from each segment, and draws conclusions concerning both what kinds of instruction seem to cause a student to make gains in his writing achievement and at what points in the sequence of skills presented these changes occur.

Procedures

The purpose of the present study was to investigate the effect of instruction in five components of the writing process on the syntactic complexity and the quality of student writing. Subjects received instruction in the following five areas:

1. Discovering a subject. All writing emanates from within the individual, from his own experience background. Since the subject is a reflection of the student, it is not assigned by the teacher.

2. Creating a design. The design is a formal or informal plan (an outline, a list of details, etc.) that is completed before the composing process begins. Through the design, the writing is given structure and thus enables the writer to constantly rediscover his subject.

3. Developing a sense of audience. Since we do not speak the same way to different people in different places, the student writer must keep a particular audience in mind when he writes. Therefore, he does not write "for the teacher" but instead learns to think and write in terms "the reader" will understand.

4. Learning to use specifics. By using revealing, concrete words, ideas, and images, the writer learns to "show" instead of merely "tell."

5. Learning to rewrite. At this point, the writer thinks the entire composition through, searching to make it clear and understandable, and insuring that it moves easily from beginning to end.

These five components are part of a writing pattern described by Murray in his book A Writer Teaches Writing (Murray, 1968).

Specifically, this study sought to test Murray's already existing model/construct for writing and attempted to investigate the following five problems:

1. The effect of teaching the five components of writing on the syntactic complexity and the quality of student writing.
2. The effect of teaching techniques in the rewrite process on the syntactic complexity and the quality of student writing.
3. Differences in writing achievement between males and females after having received instruction in the five components.
4. The differences in the writing achievement level of tenth, eleventh, and twelfth grade students.
5. Which one of the five components accounts for the highest increase in the syntactic complexity and the quality of student writing.

Sample

The writing program from which this study originated is a one-semester elective course in composition which is open to all students in grades 10, 11, and 12 and is part of the regular high school curriculum. For this study, instruction was given in the five components of the writing process described above.

Although it may be hypothesized that all five components help raise the achievement level of students' writing, it was the purpose of this study to investigate the effect that instruction in each component had on the composing process of high school students.

For the purpose of this study, the composition class

operated on a timed sequence of instruction of two-week blocks in order to accomodate pre- and post-testing (one week each) and instruction in the five components of the writing process (ten weeks total).

Two semester-long writing classes, totaling 48 students, participated in the study, each class composed of male and female tenth, eleventh, and twelfth grade students. Both classes received the experimental treatment. Control classes were not used since the purpose of this study was not a comparison of two writing programs but rather an investigation into the process of a writing program; specifically, what occurs from beginning to end within a writing program that causes student writing levels to increase syntactically and qualitatively. Thus, for the purpose of this study, a writing model has been broken down into five components, writing samples obtained, and measurement and evaluation techniques applied.

All samples of student writing were typed and coded with a series of numbers in order to maintain the anonymity of each subject during the process of quality evaluation by three teacher-raters.

Instruction

Instruction in the five components of the writing process covered a period of one semester from September to January. One week was devoted to pre-testing which drew three completed samples of writing on an assigned topic from each student, one sample a rewrite of the topic. Another week of post-testing

also obtained three completed writing samples on an assigned topic from each student, one of which was a rewrite. In addition, the STEP Writing Test, Forms 2A and 2B, was administered over a two day period as part of the pre- and post-testing.

A total of two weeks was devoted to instruction in each of the five components of the writing process for a total of ten weeks. All classes met daily, five days a week, for approximately 45 minutes. A writing sample was obtained during the last two days of the two-week block of each component. The researcher-teacher in this study used Murray's book, its theories and ideas, as the basis for all instruction and all exercises and activities related to the instruction.

Instrumentation

The design of this study is of vital importance to the following discussion. A total of 11 writing samples were obtained from each subject over a 12 week period. The pre- and post-tests included three samples each, the first two samples written on two assigned topics on two different days; the third sample was a rewrite of the first day's writing. A sample was also drawn at the end of each two-week block of instruction for each of the five components. Table 1 illustrates the design of the study. Students were assigned the same topics for pre- and post-test writing samples. Beginning with the introduction of the first component--selecting a subject--students chose their own topics for the remaining writing samples. The 11 writing samples of each student were analyzed for syntactic complexity by calculating the

total number of words per sample, the total number of T-units (Hunt, 1965), and T-unit length. All writing samples were analyzed for quality by having three raters apply a holistic score of 1(low), 2, 3, or 4(high).

Inter-rater reliability for the holistic quality ratings assigned by the three raters was established by using Hoyt's Interclass R. However, an innovation in inter-rater reliability was devised for this study. Since the goal of this research was not simply to evaluate the pre-/post-test results of a writing program but, instead, to examine and evaluate what takes place within five areas of instruction within a writing program (specifically, points of gain and regression), the inter-rater reliability was established for all 11 samples of writing obtained, for the three pre-test samples, the five samples obtained after instruction in the five components of the writing process, and the three post-test samples. This method of using 11 separate inter-rater reliability scores allows the reader to see easily which writing samples were relatively easy to score (as characterized by higher inter-rater reliability scores) and where, in the course of instruction, student writing became more complex (as characterized by lower inter-rater reliability scores). Inter-rater reliability scores ranged from a high of 0.93 to a low of 0.77.

For example, pre-test inter-rater reliability scores were the highest recorded: 0.91, 0.92, and 0.93, respectively. After the students received instruction in the first component, the reliability score dropped to 0.85, recovered to 0.90 on component two, and held fairly stable through component five

at 0.93.

However, the three post-test writing samples, where most the students' skills seemed to accumulate, show inter-rater reliability scores of 0.91, 0.84, and 0.77, respectively, showing that the quality and the complexity of the writing became harder to score.

Intra-rater reliability for each of the three raters was 0.81, 0.83, and 0.84, based on the ratings of 53 writing samples, that is, ten percent of all writing samples obtained.

Means and standard deviations were obtained for all pre- and post-test writing samples plus the five samples of writing gathered after instruction in each of the five components of the writing process; means and standard deviations were obtained for both syntactic complexity scores and quality ratings.

A four-way analysis of variance was used to analyze the words per T-unit and the quality ratings for all 11 writing samples for each of the 48 subjects. The analysis of variance was used to determine (1) if changes took place between the pre- and post-test samples, (2) if changes took place between the first draft and the rewrite, and (3) which single component of the five components taught resulted in the highest gains in student writing as measured by words per T-unit and quality ratings.

A four-way analysis of variance was also performed on the STEP Test pre- and post scores to determine if changes took place between the pre-test (STEP, form 2A) and the post-test (STEP, form 2B).

Results

Hypothesis One: An increase in writing achievement will result by teaching the five stated components of the writing process; specifically, the syntactic complexity of student writing will increase by teaching the five stated components.

Table 2 (section D) shows that the mean words per T-unit increased from 11.48 in the first set of pre-test writing samples to 16.03 in the post-test writing samples, a mean gain of 4.55 words per T-unit.

Table 3 (section D) shows that the mean words per T-unit on the pre- and post-test rewriting samples increased from 11.19 words per T-unit to 15.89, a gain of 4.70 words per T-unit between pre- and post-test writing exercises.

Through the use of a four-way analysis of variance, the F-ratio for the effect of the writing treatment--teaching the five components of the writing process--as measured in mean words per T-unit in the three pre-test and post-test samples, has a statistically significant effect that is significant at the .0001 level.

Hypothesis Two: An increase in writing achievement will result by teaching the five stated components of the writing process; specifically, the quality of student writing will increase by teaching the five stated components.

As previously discussed, three teachers rated for quality all 11 writing samples from all 48 male and female subjects by assigning a holistic score of 1, 2, 3, or 4.

Table 4 (section D) shows that the mean quality rating increased on the first set of pre- and post-test writing samples

The mean difference for component 5 in Table 6 also shows gains for all male and female subjects across all three grade levels, but only one mean, grade 10 female subjects, is higher than any mean difference shown for component 4. Mean differences range from +6.88 to +1.77, again higher overall than component 1, 2, or 3, but not as high overall as component 4.

The F-ratios for components 1, 2, or 3 do not reach a level of statistical significance, indicating that instruction in components 1, 2, and 3, as it applies to all subjects in the two pre-test writing samples, does not differ significantly from the data obtained from the teaching of component 1, 2, or 3 in its effect on the performance of subjects in the experiment as measured in mean words per T-unit.

However, since the treatment F-ratios for components 4 and 5 do reach a level of statistical significance (.0001), we may infer that the difference between the pre-test writing samples and the performance of the subjects after having received instruction in components 4 and 5 of the writing process is beyond chance expectation.

An examination of Table 7 shows a comparison of the average mean quality ratings of the two pre-test writing samples and the mean quality ratings of each of the five components taught. Table 7 shows the mean differences for males and females across the three grade levels. An examination of the "means" column of components 1 and 2 shows steady gains after the pre-test scores. Component 3 post-test means show a decline in all grades for males and females; this also parallels the syntactic complexity scores for component 3 as shown in Tables 6, 8, and 9.

complexity and the quality of their writing.

The analysis of variance, when applied to grades 12, 11, and 10 in the pre- and post-test writing samples, showed no statistically significant difference in words per T-unit or holistic quality ratings.

Hypothesis Five: One component of the writing process out of the five components taught will yield the highest increase in writing achievement; specifically, syntactic complexity (words per T-unit) and quality (holistic rating) of student writing will increase to a level determined "highest" by comparing the results of instruction of each of the five components to the average of the results of pre-test writing samples #1 and #2.

Table 6 shows a comparison of the average of two pre-test writing samples (in words per T-unit) to the means of each of the five components taught. The table shows the mean difference for males and females across the three grade levels between pre-test samples and the results of instruction in each of the five components of the writing process. Examination of the "Difference" column for components 1, 2, and 3 shows slight gains and some losses for males and females in the three grade levels. The first three components yield differences from pre-test writing samples ranging from a high of 1.96 words per T-unit to a low of -1.07 words per T-unit. However, the "Difference" column for component 4 shows gains for all males and females across all grade levels ranging from +6.72 to +3.26; these mean gains are substantially higher than even the highest mean difference (1.96) on any of the first three components.

from a mean score of 4.00 to a mean score of 8.13, a mean gain in quality rating of 4.13. Section D of Table 5 shows that the mean quality rating increased on the second set of pre- and post-test writing samples from a mean score of 4.06 to 8.38, a gain in quality rating of 4.32. The F-ratios show that the quality of student writing, as measured by the application of holistic scores, is statistically significant beyond the .0001 level.

The Rewrite: An additional hypothesis included under the testing of hypothesis two stated that the teaching of the rewrite technique will result in higher post test gains in student writing (i.e., the rewrite of the post-test sample will display a significant difference over its original draft) in both syntactic complexity and holistic quality ratings. However, the F-ratio for the treatment--teaching the rewrite technique--does not reach a level of significance, thus indicating that instruction in the rewrite did not create significant growth to distinguish the subjects' first and rewritten drafts as measured by words per T-unit or by quality rating scores.

Hypothesis Three: There will be no statistically significant difference between males and females regarding the syntactic complexity and the quality of their writing achievement after the five components of the writing process have been taught.

The analysis of variance showed no statistically significant difference in the performance of male and female subjects between pre- and post-test writing samples as measured by words per T-unit or holistic quality ratings.

Hypothesis Four: A significant difference exists between the three grade levels (grades 12, 11, and 10) in the syntactic

Beginning with component 4, mean scores in all six grade and sex categories are more than double the initial pre-test scores and are higher overall than scores of any of the other four components including component 5. The growth evidenced after component 4 is substantially greater than for any of the four components tested.

The treatment variable for components 1, 2, 3, 4, and 5, as measured by a four-way analysis of variance, show that instruction in each individual component of the five components of the writing process, as measured by holistic quality ratings, has a statistically significant effect (.0001).

Table 8 and Table 10 show little difference between males and females in either mean words per T-unit or quality ratings, respectively, throughout the teaching of each of the five components of the writing process. The F-ratios for each component are not significant, showing that instruction in any of the five components, as it applies to male and female subjects, does not differ significantly between the pre-test writing samples and instruction in any of the five components of the writing process (as measured in words per T-unit or holistic quality ratings).

However, a statistically significant interaction effect for quality rating among the variables of sex, grade, and the teaching of component 4, significant at the .01 level, is achieved; this interaction effect will be discussed in the following section under "grade."

Table 9 shows little difference among grades 12, 11, and 10 in mean words per T-unit in the syntactic complexity of each of the five components of the writing process. Nor are the F-ratios

for any component significant, showing that instruction in any of the five components of the writing process, as it applies to grades 12, 11, or 10, does not differ significantly between the pre-test writing samples and instruction in any of the five components.

However, Table 11 shows a comparison of mean differences in quality rating among grades 12, 11, and 10 for each of the five components of the writing process. Examination of the means shows some differences among grades 12, 11, and 10. From a mean difference in quality rating between grades 12 and 11 of 0.56 on the pre-test, the differences between grades 12 and 11 range from 1.20 to 0.57 throughout instruction in each of the five components. Differences between grades 11 and 10 range from a high of 1.0 on component 1 to a low of 0.04 on component 2. Overall, differences were larger between grades 12 and 11 for four of the five components. However, component 1 does show the largest differences of all between grades: 0.91 between grades 12 and 11; 1.0 between grades 11 and 10; and 1.91 between grades 12 and 10. The large differences between grades 12 and 10 are far above the next highest grade differences (between grades 12 and 10) of 0.91 for both components 3 and 4; these grade differences are significant at the .05 level.

The grade variable for component 1 does reach a level of statistical significance, significant at the .05 level. We may therefore conclude that a relationship does exist between the variable of grade and the teaching of the first component of the writing process. The grade variable for components 2, 3, 4, and 5 does not reach a level of statistical significance.

A statistically significant interaction effect among the

variables of sex, grade, and instruction in component 4, significant at the .05 level, is achieved. The scores for component 4, listed in Table 7, show a substantially higher score for grade 12 females, 10.63, that is 2.63 points higher than for grade 11 females and 1.42 higher than grade 12 males. The differences between grades 12, 11, and 10 males and females are 1.42, 1.14, and 1.43, respectively, higher between-grade differences than those recorded within any other of the four components.

STEP Test

In order to provide for a comparison of the pre- and post-test data presented here with a standardized test, the Sequential Test of Education Progress in Writing (STEP), Forms 2A and 2B, was administered as part of the pre-test and the post-test.

The F-ratio for effect of the STEP Test shows that the writing treatment--teaching the five components of the writing process--as measured by the STEP Test, Forms 2A and 2B, has a statistically significant effect that is significant at the .0001 level. A statistically significant interaction effect among sex, grade, and the STEP Test is also identified and is significant at the .05 level.

Discussion

The purpose of this study was to investigate the effect of instruction in five components of the writing process on the syntactic complexity and the quality of student writing. Subjects received instruction in the following five areas:

1. Discovery of a subject
2. Creating a design
3. Developing a sense of audience
4. Learning to use specifics
5. Learning to rewrite

The research investigated what takes place within a writing program by examining individually each of the five components of writing that were taught and which of the five components accounted for the largest gains in both syntactic complexity and quality. Although it was shown that instruction in all five components helped to raise the achievement level of student writing, this study sought to investigate the effect that instruction in each component had on the composing process. The research attempted to look into the segments of a writing model and to identify the changes that occurred in a piece of writing at points within the model between the pre- and post-test writing samples; specifically, to label those points of growth and regression (instead of just an examination and evaluation of pre- and post-test data). The research presented did this by focusing on five different points in a writing construct, isolating and controlling each segment as much as possible, and taking writing samples from each within the sequence.

The Writing Treatment

The sequence of the five components of the writing process succeeded in developing the writing skills of the 48 subjects as judged by quality ratings and syntactic complexity scores. The data clearly indicated that writing achievement can be increased through instruction in the five components of the writing process. Because instruction resulted in significant gains, the educational community should examine its current approaches to writing instruction, especially methodology and text book approaches. The writing program researched here, for example,

nature, accepting each student at his current level of ability and working from there, thus reducing any class "standard" with which to compete.

Although an informal, workshop atmosphere was utilized, deadlines were enforced for writing assignments, and the students' writing was regularly published in the classroom.

The researcher responded regularly to student writing in one-to-one conferences, and the students were encouraged to experiment and to seek the advice of other students.

This research seems to show that writing skills can be improved through instruction while relieving, if not eliminating, the pressure and frustration often associated with writing instruction.

The Rewrite

Although it was originally hypothesized that instruction in the rewrite technique would result in statistically significant gains, the comparison of differences between pre-test writing-rewriting and post-test writing-rewriting showed minimal increases in syntactic and quality scores. The reasons for this non-gain may, of course, be in the method of instruction. Perhaps the unit of instruction on the rewrite was not at the level of some of the other teaching in the writing process. Since the rewrite was presented as the last of five components, "teacher fatigue," among other possibilities, may have prevented the needed clarity of instruction.

The process of rewriting has too often been presented in the English classroom as a drudgery or as a punishment and a task to be dreaded. The scheduled two-week period of instruction

is most outstanding because of its simplicity for both student and teacher and because of its efficiency in both instruction and evaluation. The teacher is not relegated to the role of just a corrector of papers, but instead assumed the role of initial leader, resource person, and the disseminator of feedback.

This research was based on two intact classes, classes that purposely avoided all letter grades or other forms of marking with the exception of a "pass," "fail," or "honors" at the end of each quarter of the semester. This absence of grading may also have stimulated growth while relieving some of the pressure that is often associated with the teaching of writing; in addition, avoiding grades almost eliminates competition while fostering cooperation within the classroom. The direction of this research was not that writing is fun, but rather that writing is hard work, but work that yields some degree of satisfaction. Because the course of instruction in the writing program was divided into five separate components, this division helped to maintain a high degree of organization; this makes the teacher more efficient in his instruction and facilitates the mastery of learning for the student.

However, other possibilities may have contributed to the development of writing skill. The researcher had prior experience in teaching the five components of the writing process. Because of his prior experience, the researcher was able to compensate for problems although, in some areas, the possibility of over-compensation exists. This teacher variable will be mentioned below. Furthermore, the writing program was developmental in

in this component may not have been enough to overcome students' fears of rewriting and to recognize it as a needed writing skill.

Nevertheless, even though instruction in the rewrite did not improve scores in component five (rewriting) over component 4 (where the highest gains were recorded), the post-test scores were higher syntactically than component 5, showing that skill in rewriting was probably mastered during instruction but not evident until the post-test writing samples were obtained; i.e, the students may have learned in component 5, the rewrite, but they scored low in component 5 only to increase again on the post-test, so the skills involved in rewriting may have accumulated on the post-test writing samples.

Grade and Sex Differences

Since neither significant grade differences nor sex differences were found in this research, instruction in the writing process need not be modified for any of the three grade levels used here nor for males and females. For an elective course, in particular, this lack of grade difference allows for heterogenous grouping among the three grade levels and an almost uniform class expectation for grades 10, 11, and 12 and for males and females. Of course, the fact that neither grade nor sex differences were found could be an artifact of the placement of subjects in the writing course; i.e., even though approximately one-half of the students were slotted by the computer or selected the course to satisfy a minimum number of weekly classes requirement, the subjects may have had some predisposition to a writing class even though this fact was not initially obvious.

Components One Through Five

The teaching of each of the five components of the writing process revealed several uniform results:

1. Instruction in component four (converting telling to showing details) yielded the highest gains syntactically and qualitatively.

2. Instruction in component three (writing for an audience) yielded the lowest gains syntactically and qualitatively.

3. Component one (selecting a subject) scores were slightly higher syntactically than the pre-test but significantly higher in quality rating.

4. Component two (creating a design) scores were almost the same as component one scores syntactically, but component two scores were higher for quality rating.

5. Component five (rewriting) scores were higher than components one, two, or three in both syntactic complexity and quality rating.

Since instruction in component four (converting telling details to showing details) showed the highest overall gains, exercises and activities should be developed and included in a program of instruction to improve writing. Converting to showing details unquestionably made a piece of writing highly specific, even when considered as a rewriting exercise, and the method was probably relied upon by the students in the research project more than any other component as far as improving the quality of their writing.

Instruction in many other programs designed to improve writing skills has been shown to be of questionable merit. However, the results of this research may show at least one area that will facilitate the improvement of writing skills: component four, converting telling details to showing details. Instruction in component four is relatively simple with in-class

exercises and activities easily developed.

There could, of course, be a "practice" effect evident here; i.e., a cumulation of skills could have built through the teaching of component four. However, there was not a steady rise from the pre-test through component five, but rather a series of gains and losses throughout. A follow-up research in which the order of the components is switched (for example, teaching component four earlier) might offer further evidence as to the reality of a practice effect.

Component three, writing for an audience, showed the lowest gains of the five components taught. It is possible that instruction in audience writing offers little to develop skill in writing at the high school level and is, therefore, of questionable merit. Also, instruction in component three may not have been on a level of presentation similar to that of the other components. On the basis of this research, however, instruction in component three, writing for an audience, may be necessary but just does not show gains on <u>these</u> tests.

Although instruction in component one did not show statistically significant gains in syntactic complexity, the simple process of learning how to select a subject did show statistically significant improvement as far as quality rating was concerned. The three raters did recognize an improvement in quality. This implies that students in a writing program should be taught how to select topics on which to write. As previously discussed, the student writers wrote on teacher-assigned topics for the three pre-test samples and the three post-test samples. However,

the post-test scores showed that by the end of instruction in the writing process, the students had learned to handle the teacher-assigned topic as well as their own.

Statistical significance was not evident for syntactic complexity until component four; however, statistical significance for quality rating was evident beginning with component one. Therefore, even though growth in the syntactic complexity of their sentences was not evident, the student writers were infusing more quality, information, and imagination into their writing from the moment they had an opportunity to work from their own topics, and this quality was recognized by the three raters.

Component two, creating a design, showed only slight syntactic increase but did show statistically significant quality gains.

Implications

That the sequence of writing skills presented here may have had a cumulative effect is recognized; i.e., practice in each component may have accumulated to the next and succeeding components right through the post-test. This possible "practice effect" should be investigated in some future research project by varying the order in which the five components are presented. Component four (changing telling to showing details), for example, may be presented second in the sequence as component two. This would indicate whether the process of changing telling to showing details is as important as it appears in this research and just how strong the practice effect is, if

at all.

Since component three (writing for an audience) did not appear to make any contribution to the development of skill in writing, perhaps it should be eliminated from future research consideration or infused into another component, probably component one or component five since it may be a very complex idea.

The rewrite did not score as high syntactically or in quality rating as was originally anticipated. Two possible explanations already presented are an ineffectual presentation by the researcher or that the actual unit of teaching the rewrite technique was not up to par with, for example, component four. It seems that any further research, whether it is concerned with the five components of the writing process or not, should make some effort to discover the importance of instruction in rewriting. For the amount of time involved in teaching rewriting, does it ultimately pay off for the student?

Related to the above is the "teacher variable." Under different circumstances with a different instructor, would the results be as significant? Many variables are beyond the researcher's control, but perhaps Murray's model should be pitted against another writing program or philosophy to see if it can hold up, and use many writing classrooms for the research instead of the two employed for this study.

This researcher has noted and mentioned that, in his past writing classes that were based on Murray's five components of the writing process, certain positive attitude changes became evident during the process of instruction, but it was not part

of this study to measure attitudinal changes. Since student attitudes and humanistic approaches have become more of a concern to the classroom teacher, it would be a tremendous service if future research could determine whether certain positive changes in attitude do take place by teaching the components of writing suggested by Murray. Certainly the spirit of cooperation that developed among the subjects in this study suggests a need for further investigation into a highly subjective area.

The method of rater reliability employed in this study also merits future consideration; i.e., instead of a single test of overall rater reliability, as is usual in most studies involving raters, this research established rater reliability eleven different times for each of the eleven writing samples obtained. This enables the researcher to see exactly how reliability changes and how shifts in the reliability scores can be interpreted. For example, although the reliability was always above .77, reliability was higher for samples from the first component when the writing was simpler, but as the writing became more complex, the raters had a more difficult time rating it, and the reliability shifted slightly downward. Additional research would aid in determining if this is a reasonable theory to accept.

This research allowed two weeks for instruction in each of the five components of the writing process; a writing sample was also drawn during this period. Two weeks is a very short time and allows little space to stretch or to

catch one's breath, particularly when five two-week periods are strung together. Nor did this time period allow for missed school days (because of a snow storm, for example). Any further research that evaluates the five components of writing should consider the tightness of the two-week schedule of introducing instruction and should expand it to a longer time period. This may well reduce the questionable aspects of the teacher variable while enhancing the quality of writing from subjects who are allowed more time for instruction and writing.

BIBLIOGRAPHY

Hunt, Kellogg W. Grammatical Structures Written At Three Grade Levels. Research Report Number 3. Urbana, Illinois: National Council of Teachers of English, 1965.

Murray, Donald M. A Writer Teaches Writing. Boston: Houghton Mifflin Company, 1968.

TABLE 1

THE RESEARCH DESIGN AND THE ACQUISITION OF THE ELEVEN WRITING SAMPLES: THREE PRE-TEST SAMPLES, THREE POST-TEST SAMPLES, AND FIVE SAMPLES (AT TWO WEEK INTERVALS) DRAWN AFTER INSTRUCTION IN EACH OF THE FIVE COMPONENTS OF THE WRITING PROCESS

PRE-TEST	First Week -Day:	(1-Write (2-Write (3-Rewrite of Day 1	
	5 Components (2 Weeks Each):	(A-Selecting a Subject (B-Creating a Design (C-Writing for an Audience (D-Learning to Use Specifics (E-Rewriting	) Writing Samples Drawn For Each Component
POST-TEST	Last Week -Day:	(1-Write (2-Write (3-Rewrite of Day 1	

TABLE 2

A COMPARISON OF MEAN DIFFERENCES IN THE SYNTACTIC COMPLEXITY OF THE AVERAGES OF THE TWN PRE-TEST WRITING SAMPLES AND THE TWO POST-TEST WRITING SAMPLES

Mean Scores: Words per T-Unit

Section	Sex	Grade	N	Pre	SD	Post	SD	Difference
A	M	12	14	11.98	1.58	15.99	1.88	+4.01
	M	11	7	10.35	2.54	16.19	3.50	+5.84
	M	10	5	10.99	1.92	15.62	3.58	+4.63
	F	12	8	12.50	3.00	16.96	3.43	+4.46
	F	11	8	11.41	2.17	16.04	1.35	+4.63
	F	10	6	10.80	1.53	15.00	2.14	+4.20
B		12		12.17		16.34		+4.17
		11		10.92		16.11		+5.19
		10		10.89		15.28		+4.39
C	M			11.35		15.97		+4.62
	F			11.64		16.09		+4.45
D				11.48		16.03		+4.55

TABLE 3

A COMPARISON OF MEAN DIFFERENCES IN THE SYNTACTIC COMPLEXITY OF THE PRE-TEST REWRITING SAMPLE AND THE POST-TEST REWRITING SAMPLE

Mean Scores: Words per T-Unit

Section	Sex	Grade	N	Pre	SD	Post	SD	Difference
A	M	12	14	11.04	2.34	16.31	4.64	+5.27
	M	11	7	12.08	3.98	14.20	2.02	+2.12
	M	10	5	11.28	3.07	14.51	4.08	+3.23
	F	12	8	11.15	2.73	17.37	4.48	+6.22
	F	11	8	11.15	2.37	17.18	3.86	+6.03
	F	10	6	10.53	2.32	14.38	1.24	+3.85
B		12		11.08		16.70		+5.62
		11		11.58		15.78		+4.20
		10		10.87		14.44		+3.57
C	M			11.37		15.39		+4.02
	F			10.98		16.49		+5.51
D				11.19		15.89		+4.70

TABLE 4

A COMPARISON OF MEAN DIFFERENCES IN THE COMBINED HOLISTIC QUALITY RATINGS OF THE AVERAGES OF THE TWO PRE-TEST WRITING SAMPLES AND THE TWO POST-TEST WRITING SAMPLES

Mean Scores: Quality Ratings

Section	Sex	Grade	N	Pre	SD	Post	SD	Difference
A	M	12	14	4.54	1.08	8.50	1.43	+ 3.96
	M	11	7	3.79	1.29	8.43	2.01	+ 4.64
	M	10	5	3.50	0.71	7.60	1.25	+ 4.10
	F	12	8	4.19	1.44	9.06	1.88	+ 4.87
	F	11	8	3.69	0.59	7.19	0.96	+ 3.50
	F	10	6	3.58	1.02	7.33	1.60	+ 3.75
B		12		4.41		8.70		+ 4.29
		11		3.73		7.77		+ 4.04
		10		3.55		7.45		+ 3.90
C	M			4.13		8.31		+ 4.18
	F			3.84		7.91		+ 4.07
D				4.00		8.13		+ 4.13

TABLE 5

A COMPARISON OF MEAN DIFFERENCES IN THE COMBINED HOLISTIC QUALITY RATINGS OF THE PRE-TEST REWRITING SAMPLE AND THE POST-TEST REWRITING SAMPLE

Mean Scores: Quality Ratings

Section	Sex	Grade	N	Pre	SD	Post	SD	Difference
A	M	12	14	4.21	1.53	8.71	1.64	+ 4.50
	M	11	7	4.71	2.22	8.57	1.62	+ 3.86
	M	10	5	3.80	1.30	7.40	1.14	+ 3.60
	F	12	8	4.63	1.51	9.25	2.66	+ 4.62
	F	11	8	3.50	1.41	7.88	0.99	+ 4.38
	F	10	6	3.17	0.41	7.67	1.21	+ 4.50
B		12		4.36		8.91		+ 4.55
		11		4.07		8.20		+ 4.13
		10		3.45		7.55		+ 4.10
C	M			4.27		8.42		+ 4.15
	F			3.82		8.32		+ 4.50
D				4.06		8.38		+ 4.32

TABLE 6

A COMPARISON OF MEAN DIFFERENCES IN THE SYNTACTIC COMPLEXITY OF THE AVERAGES OF THE TWO PRE-TEST WRITING SAMPLES AND EACH OF THE FIVE COMPONENTS OF THE WRITING PROCESS

Mean Scores: Words per T-unit

Sex	GR	N	Pre	SD	CP #1	SD	Diff.	CP #2	SD	Diff.	CP #3	SD	Diff.	CP #4	SD	Diff.	CP #5	SD	Diff.	Post	SD
M	12	14	11.98	1.58	12.12	2.54	+0.14	12.26	2.28	+0.28	11.18	2.09	-0.80	16.43	3.57	+4.45	14.93	3.61	+2.95	15.99	1.88
M	11	7	10.35	2.54	11.72	2.47	+1.37	12.24	2.20	+1.89	11.98	3.44	+1.63	15.49	3.42	+5.14	15.27	3.22	+4.92	16.19	3.50
M	10	5	10.99	1.92	12.95	3.91	+1.96	11.15	2.82	+0.16	11.60	2.52	+0.61	17.71	5.10	+6.72	15.39	4.07	+4.40	15.62	3.58
F	12	8	12.50	3.00	12.54	2.48	+0.04	11.91	2.45	-0.59	12.00	2.66	-0.50	17.61	7.55	+5.11	16.53	3.02	+4.03	16.96	3.43
F	11	8	11.41	2.17	10.54	2.03	-0.87	11.63	2.42	+0.22	10.34	2.91	-1.07	15.70	2.67	+4.29	13.18	2.12	+1.77	16.04	1.35
F	10	6	10.80	1.53	11.80	1.76	+1.00	12.37	4.07	+1.57	11.00	2.17	+0.20	14.06	1.85	+3.26	17.68	4.57	+6.88	15.00	2.14
ALL		48	11.34	2.13	11.95	2.47		11.93	2.51		11.35	2.51		16.17	4.25		15.50	3.48		15.97	2.51

TABLE 7

A COMPARISON OF MEAN DIFFERENCES IN THE HOLISTIC QUALITY RATINGS OF THE AVERAGES OF THE TWO PRE-TEST WRITING SAMPLES AND EACH OF THE FIVE COMPONENTS OF THE WRITING PROCESS

Mean Scores: Quality Ratings

Sex	GR	N	Pre	SD	CP#1	SD	Diff.	CP#2	SD	Diff.	CP#3	SD	Diff.	CP#4	SD	Diff.	CP#5	SD	Diff.	Post	SD
M	12	14	4.36	1.08	7.14	2.28	+2.78	7.36	1.82	+3.00	6.64	2.13	+2.28	9.21	1.48	+4.85	8.57	1.99	+4.21	8.50	1.43
M	11	7	3.71	1.11	6.14	0.90	+2.43	7.00	2.45	+3.29	6.14	1.68	+2.43	9.14	1.77	+5.43	8.86	1.86	+5.15	8.43	2.01
M	10	5	3.40	0.55	5.00	2.35	+1.60	7.40	1.82	+4.00	5.80	1.10	+2.40	9.60	2.30	+6.20	8.80	1.92	+5.40	7.60	1.25
F	12	8	4.00	1.31	7.25	2.55	+3.25	8.00	1.69	+4.00	6.63	2.20	+2.63	10.63	1.60	+6.63	9.50	2.20	+5.50	9.06	1.88
F	11	8	3.63	0.52	6.38	1.85	+2.75	6.75	3.06	+3.12	6.00	2.56	+2.37	8.00	2.20	+4.37	7.63	2.33	+4.00	7.19	0.96
F	10	6	3.50	0.84	5.50	1.38	+2.00	6.50	1.64	+3.00	5.67	2.07	+2.17	8.17	2.14	+4.67	7.83	2.23	+4.33	7.33	1.60
ALL		48	3.77	0.99	6.24	2.05		7.17	2.05		6.15	1.98		9.13	1.93		8.53	2.05		8.02	1.60

TABLE 8

A COMPARISON OF MEANS FOR MALES AND FEMALES OF THE SYNTACTIC COMPLEXITY OF EACH OF THE FIVE COMPONENTS OF THE WRITING PROCESS

Mean Scores: Words per T-Unit

Sex	Pre	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5
M	11.35	12.17	12.04	11.48	16.43	15.11
F	11.64	11.61	11.94	11.13	15.95	15.63

TABLE 9

A COMPARISON OF MEANS AMONG GRADES 12, 11, AND 10 OF THE SYNTACTIC COMPLEXITY OF EACH OF THE FIVE COMPONENTS OF THE WRITING PROCESS

Mean Scores: Words per T-Unit by Grade

Grade	Pre	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5
12	12.17	12.27	12.14	11.48	16.86	15.51
11	10.92	11.09	11.91	11.11	15.60	14.15
10	10.89	12.32	11.82	11.27	15.72	16.64

TABLE 10

A COMPARISON OF MEANS FOR MALES AND FEMALES OF THE HOLISTIC QUALITY RATINGS OF EACH OF THE FIVE COMPONENTS OF THE WRITING PROCESS

Mean Scores: Quality Ratings by Sex

Sex	Pre	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5
M	4.00	6.46	7.27	6.35	9.27	8.69
F	3.73	6.45	7.14	6.14	9.00	8.36

TABLE 11

A COMPARISON OF MEANS FOR GRADES 12, 11, AND 10 OF THE HOLISTIC QUALITY RATINGS OF EACH OF THE FIVE COMPONENTS OF THE WRITING PROCESS

Mean Scores: Quality Ratings by Grade

Grade	Pre	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5
12	4.23	7.18	7.59	6.64	9.73	8.91
11	3.67	6.27	6.87	6.07	8.53	8.20
10	3.45	5.27	6.91	5.73	8.82	8.27